

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/39735

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G01N 29/00, 29/18

US CL : 73/1.02, 1.03, 32a, 61.75, 597, 645-648; 422/68.1, 102

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 73/1.02, 1.03, 32a, 61.75, 597, 645-648; 422/68.1, 102; 702/54

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CARSTENSEN, E.L. Determination of the Acoustic Properties of Blood and its Components, J.Acoustic Soc. Am, March 1953, Vol 25, No. 2, pages 286-289.	1-20
A	KIKUCHI, Y. Measurements on the Sound Velocity and the Absorption of Human Blood in 1-10MHz Frequency Range, Record of Electrical and Communication Engineering Conversation Tohoku University, June 1972, Vol. 41, No. 2, pages 152-159.	1-20
A	AUBERT, A.E. Measurement of High Frequency Sound Velocity in Blood, Biosigma, 1978, Vol. 1, pages 421-425.	1-20
A	HUGHES, D. J. Attenuation and Speed of 10 MHz Ultrasound in Canine Blood of Various Packed-cell Volumes at 37C, Medical & Biological Engineering & Computing, September 1979, Vol. 17, pages 619-622.	1-20
A	JOHNER, CHRISTIAN. Evaluation of an Ultrasonic Blood Volume Monitor, Nephrol Dial Transplant, 1998, Vol. 13., pages 2098-2103.	1-20
A	US 5,139,328 A (BAKER et al) 18 August 1992 (19.08.1992).	1
A	US 4,854,170 (Brimhall et al) 08 August 1989 (08.08.1989).	1



Further documents are listed in the continuation of Box C.



See patent family annex.

Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other cited documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

27 June 2005 (27.06.2005)

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**INTERNATIONAL SEARCH REPORT**International application No.  
PCT/US04/39735**C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,821,399 (ZELIN) 13 October 1998 (13.10.1998)	3, 4, 11-20